

NASA TECH BRIEF



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Vibration Tests on Vidicons Made by Improved Method

The problem:

To devise a sensitive method for checking the performance of vidicons in mechanical vibration tests. The tests require auxiliary equipment, including a light box and test pattern, a lens system, a deflection yoke, scan generators, video amplifiers, and a display monitor. Previous methods would require that at least the light box and test pattern, lens system, and deflection yoke be mounted with the vidicon on the vibration table. Since such mounting is not practical, no high resolution testing has been done. These methods use an overlay test pattern illuminated by a point source of light. The resolution is limited to approximately 100 lines because the overlay test pattern is separated by a relatively large distance.

The solution:

Store the image of the desired fine-detail test pattern in the photosensitive surface of the vidicon, and observe the effects of the applied vibration on this image.

How it's done:

The image of the desired test pattern is stored in the photosensitive surface of the vidicon while the system is free of mechanical vibration. While the

image is being stored, and until the last part of the test, the reading beam is cut off. The desired mechanical excitation is then applied and all mechanical adjustments made. Then, while the tube is being vibrated, the beam is turned on and the stored image read out and displayed. The only equipment that is required to be mounted on the vibration table and held in a fixed relationship is the deflection yoke.

Notes:

1. This method can be used in the experimental analysis of storage-type imaging tubes.
2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, California, 91103
Reference: B66-10042

Patent status:

No patent action is contemplated by NASA.

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